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Going Green

Dermot Kehily

Dublin Institute of Technology, dermot.kehily@dit.ie

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Sustainable development is defined in the Brundtland Report (1987) as “development that meets the needs of today without compromising future generations in meeting their own needs”. Sustainable development encompasses a whole system analysis of the effects of design, not just on environmental issues, but also on social and economic issues. Any criteria assessing sustainable design and construction must assist decision makers in reaching the best option that balances the total economic costs against social and environmental consequences.

Environmental considerations in Ireland

Traditionally, environmental considerations have not been on the agenda in the Irish construction industry. Much of Ireland’s environmental and building control legislation since the 1970s has been initiated by directives from the European Union. Many professionals and contractors, while paying lip service to the relevant buzz words, such as energy efficiency, embodied energy and green construction, have achieved little to promote a sustainable future in the industry, other than meet the minimum requirements set out in the legislation. However, in recent times a responsive minority in the industry has begun to practise and push sustainable and green building principles.

Drivers for change

The primary drivers for change can be traced back to a number of well-documented United Nations conferences in the 1990s, notably Agenda 21 in Rio de Janeiro in 1992, the Kyoto Protocol in 1997, and the Earth Summit in Johannesburg (2002). Many EU directives have been initiated by directives from the European Union. Many professionals and contractors, while paying lip service to the relevant buzz words, such as energy efficiency, embodied energy and green construction, have achieved little to promote a sustainable future in the industry, other than meet the minimum requirements set out in the legislation. However, in recent times a responsive minority in the industry has begun to practise and push sustainable and green building principles.

Leadership in Energy Efficiency and Design

LEED is an internationally recognised green building rating tool, providing third-party verification where a project was designed and constructed using strategies aimed at improving performance across a number of sustainability matrices. The system was developed by the USGBC, which was formed in 1993. The first LEED programme was launched in 1998. The programme has evolved through the years and now includes rating systems for individual building types, such as: LEED for Core and Shell; LEED for Existing Buildings; LEED for Homes; and, LEED for Commercial Interiors. The credits change to suit the construction type in each LEED system, but the focus on the five major LEED categories remains the same. These categories are:

1. Sustainable sites.
2. Water efficiency.
4. Materials and resources.
5. Indoor environmental air quality.

Each category is further broken down into a number of credits, and points are allocated on the basis of compliance with individual credits. The overall point rating determines the level of the LEED standard attained. There are four levels of LEED certification, as shown in Figure 3:

- Certified
- Silver
- Gold
- Platinum

To maximise efficiency and a greater prospect for a higher rating, it is important that a LEED AP is involved in the design process and guides the client and the design team through the process. First the assessment must register the project with the USGBC. As the design and construction progresses, the LEED AP will track changes and provide documented evidence that each credit has been met. Once the project is complete, the documented evidence will be submitted for verification to the USGBC. The USGBC provides the design team with resources, such as checklists and templates, to assist in standardising and streamlining the process.

Conclusion

There are a number of LEED APs in Ireland and many more BREEAM assessors. These assessors come from a wide range of disciplines in the industry. Many LEED APs in the US come from a background in construction cost management, assessing each credit and point in line with its impact on the building’s whole life cycle cost. An opportunity exists for Society of Chartered Surveyors Ireland members to guide prospective clients in gaining an accredited green building rating from LEED, BREEAM or any of the rating tools outlined above. Quantity surveyors are particularly well placed to offer this type of advice, as they can advise on green building attributes and associated credits while possibly giving the client an indication through life cycle cost analysis of the system or buildings payback and return.

Dermot Kehily

Dermot Kehily is a lecturer in Construction Economics and Management, DIT.